Risk Factors & Early Detection:

The risk factors associated with the leading cancer sites presented in this report are summarized in the following sections. Also presented are the known early detection strategies available to monitor the onset, prevention and control of the disease. The information presented is culled from the American Cancer Society's publication of Facts and Figures (ACS, 1998).

Cancer-Related Checkup:

"A cancer-related checkup is recommended every 3 years for people aged 20-40 and every year for people age 40 and older. This exam should include health counseling and depending on a person's age might include examinations for cancers of the thyroid, oral cavity, skin, lymph nodes, testes, and ovaries as well as for some non-malignant diseases."

Special tests for certain cancer sites are recommended as outlined below.

(1) **Breast Cancer:**

Risk Factors:

Increasing age with family and/or personal history of breast cancer are the major factors

Early age at menarche
Late age at menopause
Childlessness or late age at childbirth
Higher educational attainment and/or socioeconomic status
Correlation with dietary habits (fat intake) has been suggested.

Early Detection:

Screening mammogram

ACS Recommended Guidelines are:

Breast self-exam monthly for women aged 20 years and over
Breast clinical physical examination for women aged 20-40, every 3 years; over 40, every year. This exam should be done close to the time of the scheduled mammogram.
Mammography for women aged 40 and over, every year.

(2) **Colon and Rectum Cancers:**

Risk Factors:

Self or family history of cancer and/or polyps in the colon
Inflammatory bowel disease
High fat and/or low fiber diet increases risk of the disease.

Early Detection:

Digital Rectal Examination (DRE), Stool Blood Test, Sigmoidoscopy, Colonoscopy, and Barium enema are the recommended tools.

ACS Recommended Guidelines are:

Beginning at age 50, both men and women should follow the following testing schedule:

Yearly fecal occult blood test plus flexible sigmoidoscopy and digital rectal examination every 5 years,
Colonoscopy and digital rectal examination every 10 years, or
Double-contrast barium enema and digital rectal examination every 5-10 years .

The digital rectal examination should be done at the same time as sigmoidoscopy, colonoscopy, or double-contrast barium enema.

People should begin colorectal cancer screening earlier and/or undergo screening more often if they have any of the following colorectal cancer risk factors:

a personal history of colorectal cancer or adenomatous polyps
a strong family history of colorectal cancer or polyps (cancer or polyps in a first degree
relative younger than 60 or in two first degree relatives of any age)
a personal history of chronic inflammatory bowel disease
families with hereditary colorectal cancer syndromes (familial adenomatous polyposis and hereditary non-polyposis colon cancer).

(3) **Cervical Cancer:**

Risk Factors:

Early age at first intercourse is known to increase the risk of this cancer
Women who have multiple sex partners are at higher risk
Cigarette smoking increases the risk of the disease
Infection with certain Human papilloma viruses increases the risk.

Early Detection:

Pap Smear is an effective tool for detection
Biopsy is the only tool currently used for the detection of this cancer
The disease is normally detected only at advanced stages.

ACS Recommended Guidelines are:

Pap test and pelvic examination for women who are or have been sexually active or have reached age 18, every year;
After 3 or more consecutive satisfactory normal annual exams, the Pap test may be performed less frequently at the discretion of the physician.

(4) **Uterine (Endometrial) Cancer:**

Risk Factors:

Early age at menarche increases risk
Late age at menopause also increases the risk of uterine cancer
History of infertility is associated with the risk of developing this cancer
Failure to ovulate is known to increase the risk
Tamoxifen or unopposed estrogen therapy is associated with higher risk of the disease
Obesity is known to increase the risk of this cancer.

Early Detection:

Pap Smear is a partially effective tool for detection.

ACS Recommended Guidelines are:
Women 40 years of age and over should have annual pelvic examination.
Higher risk women should have an endometrial tissue evaluation at menopause.

(5) **Prostate Cancer:**

Risk Factors:

Age is an important risk factor; the risk of prostate cancer increases with age; over 80% of all prostate cancer incidence is among men aged 65 and above
North-western European and North American men are at higher risks than men from other countries
African-American men have the highest risks known
Association of risk with familial characteristics due to environmental and/or biological factors has been suggested
High fat/low fiber diets have been associated with increased risk of prostate cancer.

Early Detection:

Early detection tools are not as reliable as screening mammogram for breast cancer
Digital Rectal Examination (DRE), Prostate Specific Antigen (PSA) blood test, and Transrectal Ultrasound (TRUS) are currently available.

ACS Recommended Guidelines are:

Guideline Statement: “Both Prostate-Specific Antigen (PSA) and Digital Rectal Examination (DRE) should be offered annually, beginning at age 50 years, to men who have at least a 10-year life expectancy, and to younger men who are at high risk. Information should be provided patients regarding potential risks and benefits of intervention.”

Men who choose to undergo screening should begin at age 50 years. However, men in high risk groups, such as those with a strong familial disposition (e.g., two or more affected first degree relatives) or African Americans may begin at younger age (e.g. 45 years). More data on the precise age to start prostate cancer screening are needed for men at high risk.

Screening for prostate cancer in asymptomatic men can detect tumors at a more favorable stage (anatomic extent of disease). There has been a reduction in mortality from prostate cancer, but it has not been established that this is a direct result of screening.

An abnormal Prostate-Specific-Antigen (PSA) test result has been defined as a value of above 4.0 ng/ml. Some elevations in PSA may be due to benign conditions of the prostate.

The Digital Rectal Examination (DRE) of the prostate should be performed by health care workers skilled in recognizing subtle prostate abnormalities, including those of symmetry and consistency, as well as the more classic findings of marked induration and nodules. DRE is less effective in detecting prostate carcinoma compared with PSA.

(6) **Lung Cancer:**

Risk Factors:

Cigarette smoking
Exposure to arsenic, asbestos, radiation and radon
Synergistic effect between cigarette smoking and exposure to industrial and organic chemicals.

Early Detection:

The disease manifests itself at advanced stages when early detection tools become useless; chest x-rays are generally useful for diagnostic purposes only.

(7) **Pancreatic Cancer:**

Risk Factors:

The causes of pancreatic cancer are generally unknown
The risk of the disease is known to increase after age 50
Smoking is associated with increased risk
Diets high in fat are known to increase the risk of pancreatic cancer.

Early Detection:

Biopsy is the only tool currently used for the detection of this cancer
The disease is normally detected only at advanced stages.

(8) **Leukemia:**

Risk Factors:

The causes of this childhood cancer is not very well understood; the disease is known to occur among individuals who:

have down syndrome and certain genetic abnormalities
have been exposed to ionizing radiation, and certain chemicals such as benzene
have retroviral infections.

Early Detection:

The disease is very difficult to detect early.

When suspected, it can be diagnosed using blood tests and biopsy of the bone marrow.

(9) **Lymphoma:**

Risk Factors:

The causes of this cancer is largely unknown, but suspected to be due to reduced immune functions and exposure to certain infectious agents; risks are higher among persons with:

organ transplants whose immune systems have been weakened
HIV and T-cell leukemia/lymphoma viral infection
Epstein-Barr herpes viral infection suspected as a cause of Burkitt's lymphoma in Africa
exposure to herbicides, industrial solvents and vinyl chloride.

(10) **Skin Cancer:**

Risk Factors:

Excessive exposure to ultraviolet exposure
Fair complexion

Occupational exposure to coal atr, pitch, creosote, arsenic compounds, or radium.

Early Detection:

Skin self-examination once a month is recommended for adults and any suspected lesions should be evaluated by a physician.

(11) **Ovarian Cancer:**

Risk Factors:

Age is an important risk factor as risk increases with age
Childlessness increases the risk of developing the disease
Increased number of pregnancies and use of oral contraceptives are protective factors in the development of ovarian cancer
A history of breast cancer for the woman or in her family increases the risk of the disease
Genetic factors have been associated with the development of ovarian cancer
Women in industrial countries have higher risks of developing this form of cancer.

Early Detection:

Periodic pelvic examination is highly recommended
Pap Smear test is not a suitable test for the detection of ovarian cancer
Women over age 40 should have annual cancer-related check-ups.

(12) **Bladder Cancer:**

Risk Factors:

Smoking is the most important risk factor in the development of bladder cancer
Urban residency is positively associated with bladder cancer development
Exposure to dye, rubber, and leather have also been found to influence the development of bladder cancer.

Early Detection:

Bladder cancer is detected by the use of a cystoscope (a narrow tube inserted into the bladder through the urethra).

(13) **Oral Cancer:**

Risk Factors:

Cigarette, cigar, or pipe smoking are the most important risk factors. Use of smokeless tobacco also affects the risk of oral cancer Excessive consumption of alcohol play a significant role in the development of the disease.